

**LOOP INSTRUCTION PROCESSING USING
LOOP BUFFER IN A DATA PROCESSING DEVICE**

Abstract of the Disclosure

5 A data processing device comprising a central processing unit (CPU) for fetching
instructions from a program memory, decoding the instructions and sending a signal
(CCLK) to a coprocessor if a coprocessor type instruction is decoded; a coprocessor for
decoding the coprocessor-type instructions upon receipt of the signal (CCLK); and a
loop buffer for receiving from the program memory instructions within a loop and storing
the instructions within the loop when the coprocessor decodes a loop operation from the
10 coprocessor-type instructions, wherein the instructions within the loop are retrieve from
the loop buffer for execution in a subsequent iteration of the loop, wherein a disable
signal is sent to the program memory for inhibiting access of the program memory while
the instructions within the loop are retrieved from the loop buffer.